- A liquid composition for bulging mucous membrane in endoscopic surgery comprising a chitosan derivative containing carbohydrate chains.
- A composition according to Claim 1, characterized in that it comprises 0.5 to 8.0% by weight of the chitosan derivative containing carbohydrate chains.
- 3. A composition according to Claim 1, characterized in that the chitosan derivative containing carbohydrate chains is a polymer formed from a chitin/chitosan comprising glucosamin units represented by the following formula (I):

by incorporating a carbohydrate chain having a reducing terminal to at least a part of the 2-position amino groups in the glucosamin units of the chitin/chitosan.

4. A composition according to Claim 1, characterized in that the chitosan derivative containing carbohydrate chains is a polymer formed from a chitin/chitosan comprising glucosamin units represented by the following formula (I):

$$\begin{bmatrix}
OH \\
OH \\
NH_2
\end{bmatrix}$$
(I)

by incorporating a carbohydrate chain having a reducing terminal to at least one part of the 2-position amino groups in the glucosamin units of the chitin/chitosan, and incorporating a photoreactive group to at least another part of the 2-position amino groups of the glucosamin units of the chitin/chitosan.

- 5. A composition according to Claim 3 or 4, characterized in that the carbohydrate chain is derived from pentaoses or hexaoses such as glucose, fructose, galactose, fucose, mannose, arabinose, xylose, erythrose, hepturose and hexylose; amino carbohydrates such as glucosamin, N-acetylglucosamin and galacsamin; carbohydrate derivatives such as uronic acids and deoxysaccharides; di- and trisaccharides such as maltose, isomaltose, lactose, melibiose and maltotriose.
- A Composition according to Claim 4, characterized in that the photo-reactive group is selected from the group consisting of a carbonylazide group, sulfonylazide group, aromatic azide group, and formyl styryl group
- 7. A composition according to Claim 1, characterized in that the chitosan derivative further contains an amphipathic group.
- 8. A composition according to any one of Claims 1 to 7, characterized in that it is sterilized with an autoclave.
- An endoscopic system comprising a device for injecting the composition of any one of Claims 1 to 8 into a targeted portion.
- 10. An endoscopic system according to Claim 9, further comprising a device for irradiating light to the injected composition.